Facility Audit: Aragonite, UT

Clean Harbors
ENVIRONMENTAL SERVICES, INC.

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1.0 General Company Information

Introduction

Clean Harbors is a publicly traded company that maintains a vast network of service centers, waste management, and treatment and disposal facilities, and provides a broad range of environmental services. Services include hazardous and non-hazardous waste transportation, disposal, laboratory chemical packing, emergency response, field services and industrial maintenance. Since its inception in 1980, Clean Harbors has grown to become the largest provider of environmental services in North America. Clean Harbors locations span the United States and Canada, and include locations in Mexico and Puerto Rico.

Network of Services

Strategically located across North America, Clean Harbors service centers are the primary interface with customers and the focal point for providing waste management activities, laboratory chemical packing services, and emergency response, field services and industrial maintenance. From the service center sites service crews and equipment are dispatched to perform various planned work on customers sites, as well as emergency response. CleanPack teams are also based at the service centers and provide customers with laboratory chemical packing services.

Technical Services - *Transportation & Disposal* - Clean Harbors network of company-owned waste treatment, storage and disposal facilities are located across North America and offer a broad range of disposal, recycling and treatment technologies for hazardous and non-hazardous materials. Technologies include:

- Incineration
- Wastewater Treatment
- Recycling
- Fuels Blending
- Landfill

All of our disposal facilities uphold rigorous quality assurance programs to meet the highest standards of both internal and external audits.

Waste streams handled by Clean Harbors can be in any form from gas to liquids, solids and sludge. Clean Harbors can dispose of virtually any type of waste, hazardous or non-hazardous, from exotic water reactive wastes, to typical paint or oil wastes.

Our transportation services handle everything from small, one-time shipments to multiple large shipments and include drum, bulk and rail capabilities. Once you place your order and before the pick up is even made, Clean Harbors begins the process of managing your waste. Your order enters our logistics center where your waste is designated for disposal via the least cost routing. Company owned and operated trucks are assigned based on the most efficient route or on pre-established schedules. Satellite tracking and communication allow trucks to be dispatched on the

fly from anywhere in the country. The disposal facility is determined based on the most appropriate, yet lowest cost disposal method.

Plant inventories are centrally monitored real-time. Our facilities know in advance and begin load planning for efficient processing of incoming waste. All this upfront work is managed centrally and electronically to provide the most cost-effective and efficient handling of orders, waste transportation and disposal in the industry.

CleanPack® Laboratory Chemical Packing Services - Clean Harbors professionally trained CleanPack chemists work on customer sites to collect, label and package unwanted laboratory quantities of chemicals and wastes for disposal in compliance with local, state, and federal regulations. CleanPack teams provide reactive material handling services for the proper management and disposal of highly reactive and dangerous chemicals, laboratory moves, and facility closures. Our household hazardous waste collection program offers a cost-effective and safe manner for states, cities and towns to keep their residents free of unwanted old and obsolete pesticides, paints, fertilizers and other potentially harmful materials.

Site Services - *Field Service* crews work in hazardous and non-hazardous environments. Crews perform routine planned jobs and emergency responses specializing in site decontamination, biohazard response, confined space entry, product recovery and transfer, excavation and removal, vacuum services, scarifying and sandblasting, marine services and booming. Remediation and environmental construction services of any scale including remedial systems design, custom fabrication and welding, mobile treatment, well maintenance and video inspection, complement Clean Harbors' capabilities.

Industrial Service teams use advanced industrial cleaning technologies including chemical cleaning, hydroblasting, vacuum services, steam cleaning, sodium bicarbonate blasting, and abrasive blasting to accomplish fast turnaround during time-critical plant shutdowns.

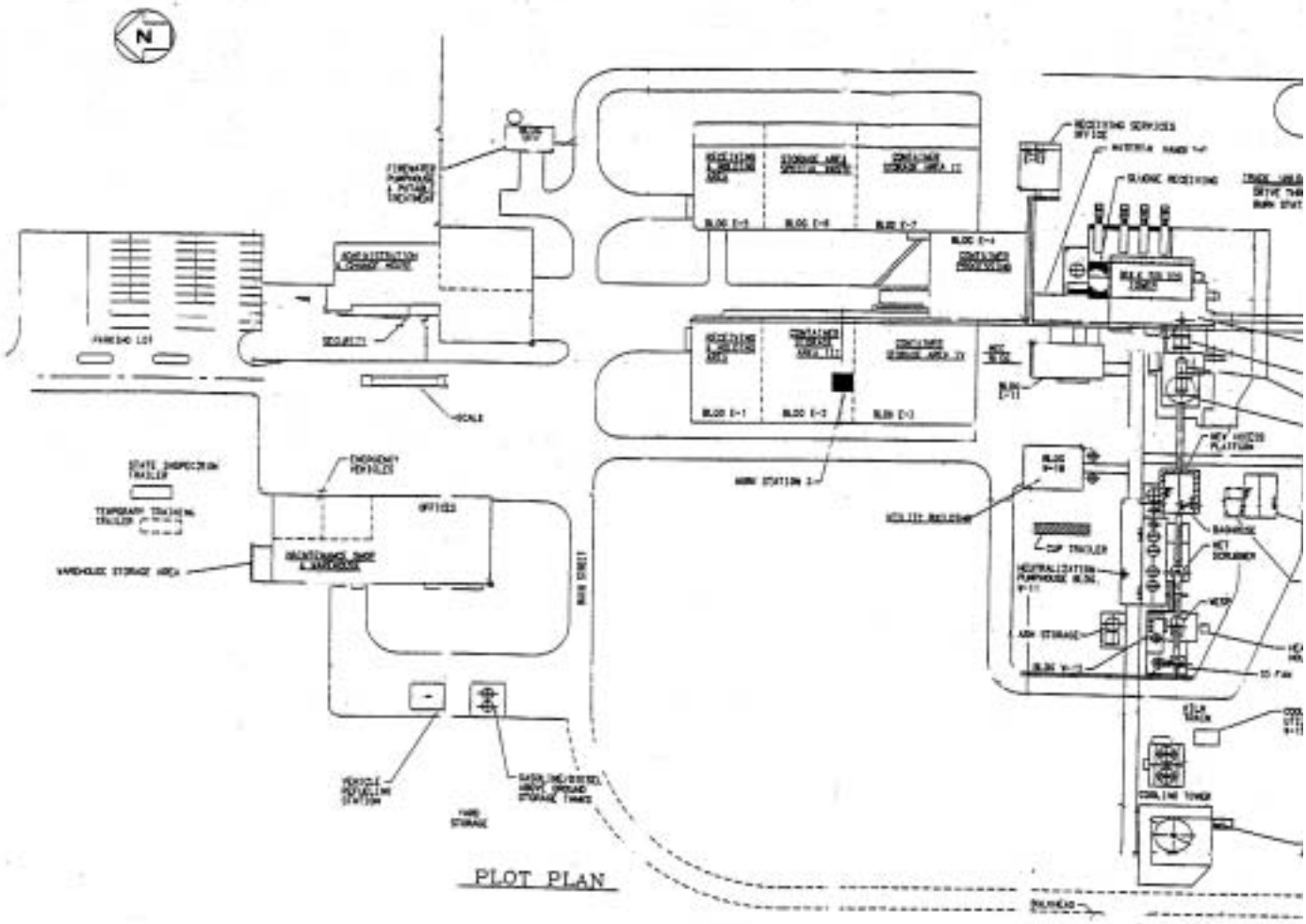
2.0 Facility Information

Facility Overview

Clean Harbors Aragonite, LLC, a subsidiary of Clean Harbors, Inc. headquartered in Braintree, Massachusetts, owns and operates a hazardous waste storage, treatment and disposal facility located in Aragonite, Utah. This facility is fully permitted for RCRA and TSCA waste by the Utah Department of Environmental Quality to receive, store, treat, dispose and transfer a variety of waste streams. The treatment methods utilized at this facility reduce the volume and /or toxicity of waste materials or make it suitable for further treatment or disposal.

Facility Name	Clean Harbors Aragonite, LLC
Location	72 miles west and 4 miles south of Salt Lake City, Utah (Exit 56 off Interstate 80)
Mailing Address	P.0. Box 22890, Salt Lake City, UT 84122-0890
Shipping Address	11600 North Aptus Road, Aragonite, UT 84029
County	Tooele
Phone Number	(801) 323-8100
Fax Number	(801) 323-8877
Facility Owner	Clean Harbors Aragonite, LLC. 11600 North Aptus Road Aragonite, UT 84029
Property Owner	Clean Harbors Aragonite, LLC.
EPA ID Number	UTD981552177
Permit Type	RCRA and TSCA
Waste Description	Most incinerable organic and inorganic waste
Services Provided	Storage/Transfer/Incineration

Facility Site Plan



Facility History

Land for the Aragonite Incineration Facility was purchased in May 1987. Ground breaking was held on May 2, 1989 and construction was completed on July 8, 1991. On December 19, 1991, the Aragonite Incineration Facility commenced incinerating waste.

A Resource Conservation and Recovery Act (RCRA) Part B permit application was submitted to the State of Utah in July of 1987, and a permit was issued to the Aragonite facility on March 30, 1990. EPA Region VIII issued a Hazardous and Solid Waste Amendments (HSWA) permit for the facility on May 4, 1990. The state of Utah issued an Air Quality Approval Order on May 28, 1991. A Conditional Use Permit was issued on May 16, 1988. A Toxic Substances Control Act (TSCA) permit to store PCB wastes at the facility was issued on November 14, 1991.

Aragonite Facility Key Dates

May 1987	Tooele County creates West Desert Hazardous Industries District; optioned Aragonite property.
July 1987	Submitted RCRA application.
May 1988	Tooele County grants zoning change from MU-40 (multiple use) to MG-H.
July 1988	Tooele County issues Conditional Use Permit for Aragonite Incineration.
May 1989	Groundbreaking.
March 1990	Received State RCRA permit.
May 1990	Received EPA HSWA permit.
January 1991	East Container Building approved; first load of waste received.
May 1991	Air Approval Order received.
July 1991	Construction complete; West Container Building approved.
August 1991	Bulk solids approved.
September 1991	Liquid Tank Farm approved.
October 1991	Laboratory at Aragonite facility certified by State of Utah.
November 1991	Received TSCA demonstration approval; sludge system approved.
December 1991	Shredder approval, Kiln and Gas Train approved, commenced incinerating.
January 1992	First PCB's incinerated.
March 1992	First Trial Burn commenced.
December 1993	Final Operating Permit received.
April 1995	Westinghouse sold Aptus to Rollins Environmental Services Facility becomes Aptus, Inc. a subsidiary of Rollins.
May 1997	Rollins Environmental purchased Laidlaw Environmental Services. Facility becomes Laidlaw Environmental Services (Aragonite).
July 1998	Laidlaw Environmental purchased Safety-Kleen. Facility becomes Safety-Kleen (Aragonite).
June 2000	Safety-Kleen declares Chapter 11 Bankruptcy.
September 2002	Clean Harbors purchases assets of Safety-Kleen. Facility becomes Clean Harbors Aragonite, LLC.

Facility Location

The facility is located in the Great Salt Lake Desert, approximately 75 miles west of Salt Lake City, Utah in Tooele County. Its location is within a 100 square-mile zone established by the Tooele County Commission to be used exclusively for hazardous waste management activities.

The nearest residential neighbor is approximately 45 miles southeast of the facility in Grantsville, Utah.

Within a 30 miles radius and in a southerly direction of the site, the land is used as a bombing range by the United States Air Force for desert warfare training The Federal Bureau of Land Management owns Ninety-five percent (95%) of the land in the surrounding 30 miles.

Climatology - Hydrogeology - Topography

Prevailing winds are generally from the south-southeast. The site is rated as arid to semi-arid with an annual precipitation of 6 to 12 inches. No surface water is present, and the natural surface water drainage is northerly. The Aragonite site elevation is 4,670 feet above mean sea level. The highest recorded level of the Great Salt Lake is 4,217 feet above mean sea level. The facility is not in the 100-year flood plain.

The Aragonite site is located in the Basin and Range Physiographic Province on a broad, gently sloping alluvial fan originating from the west slope of the Cedar Mountains. The sandy-silt surface soils, which have developed at the site support native desert vegetation. Minor channels and rills cross the site, but no major active channels are present within the facility boundaries.

Near the site area, the Cedar Mountains are comprised predominantly of Permian and Pennsylvanian-age limestone. Primarily Quaternary alluvial and lacustrine sand and gravel underlie the site itself. Because the site in located in a transition area between alluvial (stream channel) and lacustrine (lakebed) zones, the subsurface materials were reworked as they were deposited. Thus, few fine particles (silts and clays) are present near the surface.

No known faults of recent age (less then 10,000 to 12,000 years old) are located within 3,000 feet of the site. The closest known fault to the site is located approximately 7,500 feet northeast of the facility boundary, with an age well in excess of 12,000 years.

No streams or rivers flow within 40 miles of the facility. The nearest naturally occurring body of water is the Great Salt Lake, approximately 30 miles northeast of the site.

Security

An eight-foot cyclone (chain-link) fence secures the site's property. A security guard is present during normal business hours and the facility is secured during non-business hours. Non-business hour access is strictly limited and controlled.

Warning signs are posed every 100 feet along the perimeter of the site and where needed throughout the facility.

Directions to Facility From Salt Lake City:

Clean Harbors Aragonite, LLC.
11600 North Aptus Road
Aragonite, Utah 84029
(801) 323-8100

1. From the Salt Lake City International Airport, follow the signs to Interstate-80 westbound toward Wendover and Reno, Nevada.

2. Stay on I-80 for approximately 65 miles until reaching the 'Aragonite' Exit 56.

3. During the one hour drive, you will pass The Great Salt Lake immediately adjacent to the highway, Kenecott Copper Mine tailing ponds and production furnaces, salt production facilities, and the MagCorp magnesium plant.

4. At the top of the Exit 56 ramp, turn left and proceed south on the freeway overpass over the freeway. The Aragonite facility is approximately 4 miles south of the freeway and can be seen clearly in the distance as you travel south toward it. There are no other facilities in the area.

5. Proceed cautiously on the facility access road keeping watch for wild pronghorn sheep, domesticated cattle and wild horses that could quickly dart in front of your vehicle. This is an open-range area and cattle periodically wander onto the roadway.

6. Watch the power poles on the east side of the access road for the occasional golden eagle or bald eagle sightings as they perch on top of the poles.

7. You should allot approximately 75 minutes travel time to arrive at the facility from the airport.

8. Seasonal driving conditions may vary travel time.

3.0 Operating Licenses and Permits Summary

Licenses and Permits Specifics

REGULATORY AGENCY	PERMIT NUMBER	ISSUE DATE	EXPIRE DATE	RENEW DATE
Notification of Hazardous Waste Activity Mr. Dennis Downs - Executive Secretary Utah Solid & Hazardous Waste Control Board Division of Solid & Hazardous Waste 288 North 1460 West; P.O. Box 144880 Salt Lake City, Utah 84114-4880 (801) 538-6170	UTD981552177	5/8/2000	5/8/2010	11/8/2009
Notification of PCB Activity Mr. Tony Baney, Chief Chemical Regulation Branch Office of Toxic Substances TS-798 U.S. EPA 401 M Street, SW Washington, DC 20460	UTD981552177	9/16/91	Annually	Annually
Conditional Use Permit (Use of Property in Tooele County) Mr. Ray Johnson Tooele County 47 South Main Tooele, UT (801) 882-9160	700-88	7/13/88	--	Quarterly & Annual Reports
Tooele Zoning (Change from MU-40 to MGH) Mr. Ray Johnson Tooele County 47 South Main Tooele, UT (801) 882-9160	88-2	5/19/88	--	--
RCRA (Construct/Operation of a Hazardous Waste Facility) Mr. Dennis Downs - Executive Secretary Utah Department of Environmental Quality Solid & Hazardous Waste Control Board P.O. Box 144880 Salt Lake City, UT 84114-4880 (801) 538-6170	UTD981552177	5/8/2000	5/8/2010	11/8/2010
HSWA Mr. Carl Daly USEPA – Region 8 999 18th Street Denver, CO 80202-2466 (303) 293-1500	UTD981552177	10/2002	10/2012	10/2012 (Renewal Pending)

REGULATORY AGENCY	PERMIT NUMBER	ISSUE DATE	EXPIRE DATE	RENEW DATE
TSCA (Transfer, Storage, Disposal of PCBs) Mr. Kerrigan Clough, Regional Administrator USEPA – Region 8 999 18th Street Denver, CO 80202-2466 (303) 312-6027	UTD981552177	3/28/2002	5/8/2010	11/8/2010
Notice of Intent to Construct (Air Approval Order) Mr. Richard Sprott State of Utah Division of Air Quality P.O. Box 144820 Salt Lake City, UT 84114-4820	DAQE-168-02	2/2002	N/A	Quarterly & Annual Reports (Title V Pending)
Water Right A15027 (Grant Authority to Withdraw Water) Mr. Robert L. Morgan, P.E., State Engineer State of Utah, Dept. of Natural Resources Division of Water Rights 1636 West North Temple, Suite 220 Salt Lake City, UT 84116-3156 (801) 538-7240	16-757	11/17/87	6/31/96	Show of Beneficial Use (Renewal Pending)
Drinking Water (Construct, Operate & Maintain Two Wells and a R.O. Unit) State of Utah, Division of Drinking Water/Sanitation	23067	8/90	N/A	Quarterly Analysis
Laboratory Certification (NELAC) (Operate a Laboratory with Specified Certified Methods) State of Utah, Dept. of Health	APTS1	08/08/2002	07/31/2003	04/2003
Business License Tooele County Clerk Tooele County Corporation 47 South Main Street Tooele, TU 84074	03-002	7/30/2002	7/30/2003	5/2003
Stormwater Permit (Discharge Stormwater Associated With Industrial Activity) State of Utah, Division of Water Quality Salt Lake City, UT 54114	UTR000135	5/26/93	9/30/97	N/A
Soil Permit (Permit to Import Soils) U.S. Dept. of Agriculture Animal and Plant Health Inspection Service Plant Protection and Quarantine (PPQ) Federal Building Hyattsville, MD 20782	S-58610	9/30/2002	9/30/2007	7/2007

REGULATORY AGENCY	PERMIT NUMBER	ISSUE DATE	EXPIRE DATE	RENEW DATE
DOT Permit (Hazardous Materials Certificate of Registration) U.S. Dept. of Transportation Manager, Hazardous Materials Registration DHM-60 Research & Special Programs Admin. 400 7th Street, SW Washington, DC 20590	61494	6/16/94	6/30/95	N/A
Approval of Consent (Notice of Intent to Export) USEPA – Office of Enforcement and Compliance Assurance Washington, DC 20460	139/96	8/99	8/2000	7/2000
Mineral Lease Division of State Lands and Forestry State of Utah	SULA 762	9/87	9/2038	Annual Fee
SHPD Approval (Archaeological Clearance) State of Utah Division of State History	K935	9/6/88	--	--
Right-of-Way (Access to Aragonite and Clive Properties) U.S. Dept. of Interior, Bureau of Land Management Salt Lake District Office	U-61673	5/88	Annual Lease Fee	
Right-of-Way (Access to Aragonite for Road Across State Line State of Utah, Division of State Lands & Forestry *Transferred to Tooele County 7/9/90	3399	5/89	5/2038	Dedicated to Tooele County
Right-of-Way Encroachment (Construct Road and Realign Cattle Guard in No-Access Line) State of Utah, Department of Transportation	004217	10/89	7/90	
Sanitation (Construct and Operate Septic Tank and Drain Field) Tooele County, Dept. of Health		5/89	N/A	N/A
Elevator (Operate Elevator for Handicap Access in Administration) Utah Industrial Commission	E-2553	10/30/2001	10/30/2003	9/2003
Truck Scale (Operate Scales for Commerce) Utah Dept. of Agriculture Weights and Measures	--	4/16/2002	4/16/2003	2/2003 Annually Inspected

REGULATORY AGENCY	PERMIT NUMBER	ISSUE DATE	EXPIRE DATE	RENEW DATE
Boiler Fire Tube (Provide Laundry Hot Water) Utah Industrial Commission	U-16825	08/08/2001	08/08/2003	06/2003
Boiler Fire Tube (Provide Shower Hot Water) Utah Industrial Commission	U-28182	08/08/2001	08/08/2003	06/2003
Boiler Fire Tube (Provide Hot Water to Emergency Stations) Utah Industrial Commission	U-28181	08/08/2001	08/08/2003	06/2003
Radio License (2-Way Radios) U.S. Dept. of Agriculture Animal and Plant Health Inspection Service Plant Protection and Quarantine (PPQ) Federal Building Hyattsville, MD 20782	S-4004	11/97	12/31/02	9/02

Principal Operating Licenses/Permits

Copies of existing permits, which detail types of waste management licensed capacities and waste types accepted, are available for inspection upon request at the site.

State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Richard W. Sprott
Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4000 Voice
(801) 536-4099 Fax
(801) 536-4414 T.D.D.
Web: www.deq.state.ut.us

DAQE-168-02

February 26, 2002

Karl Libsch
Safety-Kleen (APTUS) Incorporated
P.O. Box 22890
Salt Lake City, Utah 84122-890

Dear Mr. Libsch:

Re: Approval Order: Modification of Approval Order (AO) DAQE-124-02 to Express NO_x Emission Limit on a Mass Rate Basis, Tooele County, CDS-A1, ATT, NESHAPS, HAPs, Title V
Project Code: N0725-010

The attached document is the Approval Order (AO) for the above-referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Dave Hansell. He may be reached at (801) 536-4040.

Sincerely,

Richard W. Sprott, Executive Secretary
Utah Air Quality Board

RWS:DH:DH

cc: Tooele County Health Department
Mike Owens, EPA Region VIII

Utah!
Where ideas connect
Department of Environmental Quality
Division of Solid and Hazardous Waste

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Dennis R. Downs
Director

288 North 1460 West
P.O. Box 144880
Salt Lake City, Utah 84114-4880
(801) 538-6170
(801) 538-6715 Fax
(801) 536-4414 T.D.D.
www.deq.utah.gov

October 23, 2002

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Shawn Raju
General Manager
Clean Harbors Aragonite, LLC
P.O. Box 22890
Salt Lake City, UT 84122-0890

Subject: **Class 1 Modification Approval – Transfer of Ownership**
Modification #02.01485
Clean Harbors Aragonite, LLC

Dear Mr. Raju:

On May 2, 2002, Clean Harbors submitted an application to transfer ownership of the Aragonite facility from Safety-Kleen to Clean Harbors. This application is being considered a class 1 modification request requiring agency approval. Subsequent to the transfer request Clean Harbors secured the necessary financial assurance and on September 6, 2002, transfer of facility ownership occurred.

The transfer of ownership modification request has been reviewed and as provided by this notice is approved as enclosed. Clean Harbors Aragonite should update its copy of the permit by replacing the Permit Page and Attachment 7 with the revised enclosures. Additional references to Safety-Kleen throughout the remaining portions of the permit will be modified as those portions of the permit are revised in response to future permit modification requests.

If you have any questions, please contact Boyd Swenson at (801) 538-6170.

Sincerely,

Dennis R. Downs, Executive Secretary
Utah Solid and Hazardous Waste Control Board

DRD/BAS/ts

Enclosures

c: Erna Waterman, EPA Region VIII, w/enclosures
Dan Bench, EPA Region VIII TSCA, w/enclosures
Myron Bateman, E.H.S., M.P.A., Health Officer, Tooele County Health Department

F:\WP\APTUS\02.01485.doc
File To: Clean Harbors Aragonite, LLC, October 2002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

FEB 20 2002

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Ref: 8P-P3T

Shawn Raju
General Manager
Safety-Kleen (Aragonite) Inc.
P.O. Box 22890
Salt Lake City, UT 84122-0980

Re: February 19, 2002 Modification

Dear Mr. Raju:

This is in response to your letter of January 9, 2002, in which you requested a change in Condition II.(2)(iii)(v)(11) [Sic] of the December 26, 2001 Modification of the Approval for Commercial Storage and Disposal by Incineration of Polychlorinated Biphenyls (PCBs) at Safety-Kleen (Aragonite), Inc., Aragonite, Tooele County, Utah. Condition II.(2)(v)(11) has been changed in accordance with your request to read: "A scrubber liquid flowrate to the packed tower first stage of less than 1960 gpm for more than 5 minutes as calculated on a 60-minute rolling average." The approval will become effective upon the date of signature.

Enclosed is the February 20, 2002 Modification. A copy of this letter, the Modification, and a redline/strikeout copy will be sent by e-mail to jmiller@safety-kleen.com. If you have questions, please call Dan W. Bench at 303 312-6027.

Sincerely,

Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosures

cc: Dennis Downs w/enc.

Acceptable Waste Codes

CLEAN HARBORS ARAGONITE, LLC - EPA ID #: UTD981552177
Acceptable Waste Codes (Includes Dioxin Codes [BLUE Brackets] and Carbamate Codes [RED Brackets] for Storage Only.)

Hazardous Wastes with Characteristics (D-Codes):

D001	D002	D003	D004	D005	D006	D007	D008	D009	D010	D011	D012	D013	D014
D015	D016	D017	D018	D019	D020	D021	D022	D023	D024	D025	D226	D027	D028
D029	D030	D031	D032	D033	D034	D035	D036	D037	D038	D039	D040	D041	D042
D043													

Hazardous Wastes from Non-Specific Sources (F-Codes):

F001	F002	F003	F004	F005	F006	F007	F008	F009	F010	F011	F012	F019	**[F020]**
[F021]	**[F022]**	**[F023]**	F024	F025	**[F026]**	**[F027]**	**[F028]**	F032	F034	F035	F037	F038	F039

Hazardous Wastes from Specific Sources (K-Codes):

K001	K002	K003	K004	K005	K006	K007	K008	K009	K010	K011	K012	K013	K014
K015	K016	K017	K018	K019	K020	K021	K022	K023	K024	K025	K026	K027	K028
K029	K030	K031	K032	K033	K034	K035	K036	K037	K038	K039	K040	K041	K042
K043	K044	K045	K046	K047	K048	K049	K050	K051	K052	K060	K061	K062	K064
K065	K066	K069	K071	K073	K083	K084	K085	K086	K087	**[K088]**	K090	K091	K093
K094	K095	K096	K097	K098	K099	K100	K101	K102	K103	K104	K105	K106	K107
K108	K109	K110	K111	K112	K113	K114	K115	K116	K117	K118	K123	K124	K125
K126	K131	K132	K136	K140	K141	K142	K143	K144	K145	K147	K148	K149	K150
K151	**[K156]**	**[K157]**	**[K158]**	**[K159]**	**[K161]**	K169	K170	K171	K172				

Discarded Commercial Chemical Products and Off-Specification Species (P-Codes):

P001	P002	P003	P004	P005	P006	P007	P008	P009	P010	P011	P012	P013	P014
P015	P016	P017	P018	P019	P020	P021	P022	P023	P024	P025	P026	P027	P028
P029	P030	P031	P033	P034	P036	P037	P038	P039	P040	P041	P042	P043	P044
P045	P046	P047	P048	P050	P051	P054	P056	P057	P058	P059	P060	P062	P063
P064	P065	P066	P067	P068	P069	P070	P071	P072	P073	P074	P075	P076	P077
P078	P081	P082	P084	P085	P087	P088	P089	P092	P093	P094	P095	P096	P097
P098	P099	P101	P102	P103	P104	P105	P106	P108	P109	P110	P111	P112	P113
P114	P115	P116	P118	P119	P120	P121	P122	P123	**[P127]**	**[P128]**	P185	P188	**[P189]**
[P190]	P191	P192	**[P194]**	**[P196]**	P197	**[P198]**	**[P199]**	**[P201]**	**[P202]**	**[P203]**	**[P204]**	**[P205]**	

Discarded Commercial Chemical Products and Off-Specification Species (U-Codes):

U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U014	U015
U016	U017	U018	U019	U020	U021	U022	U023	U024	U025	U026	U027	U028	U029
U030	U031	U032	U033	U034	U035	U036	U037	U038	U039	U041	U042	U043	U044
U045	U046	U047	U048	U049	U050	U051	U052	U053	U055	U056	U057	U058	U059
U060	U061	U062	U063	U064	U066	U067	U068	U069	U070	U071	U072	U073	U074
U075	U076	U077	U078	U079	U080	U081	U082	U083	U084	U085	U086	U087	U088
U089	U090	U091	U092	U093	U094	U095	U096	U097	U098	U099	U101	U102	U103
U105	U106	U107	U108	U109	U110	U111	U112	U113	U114	U115	U116	U117	U118
U119	U120	U121	U122	U123	U124	U125	U126	U127	U128	U129	U130	U131	U132
U133	U134	U135	U136	U137	U138	U140	U141	U142	U143	U144	U145	U146	U147
U148	U149	U150	U151	U152	U153	U154	U155	U156	U157	U158	U159	U160	U161
U162	U163	U164	U165	U166	U167	U168	U169	U170	U171	U172	U173	U174	U176
U177	U178	U179	U180	U181	U182	U183	U184	U185	U186	U187	U188	U189	U190
U191	U192	U193	U194	U196	U197	U200	U201	U202	U203	U204	U205	U206	U207
U208	U209	U210	U211	U213	U214	U215	U216	U217	U218	U219	U220	U221	U222
U223	U225	U226	U227	U228	U234	U235	U236	U237	U238	U239	U240	U243	U244
U246	U247	U248	U249	**[U271]**	**[U278]**	**[U279]**	**[U280]**	U328	U353	U359	U364	U367	**[U372]**
[U373]	**[U387]**	**[U389]**	U394	U395	U404	**[U409]**	**[U410]**	**[U411]**					

Principal Contacts/Agencies

The list of contacts below can provide additional information regarding Clean Harbors Aragonite's facility operations or compliance:

Operations	Mr. Shawn Raju, General Manager Clean Harbors Aragonite, LLC. 11600 North Aptus Road Aragonite, Utah 84029 (801) 323-8100
Regulatory	Mr. Chris Lilley Facility Compliance Manager Clean Harbors Aragonite, LLC. 11600 North Aptus Road Aragonite, Utah 84029 (801) 323-8138
RCRA Compliance	Mr. Rick Page Utah State Department of Environmental Quality Division of Solid and Hazardous Waste 288 North 1460 West Salt Lake City, UT 84116 (801) 538-6170
Permitting	Mr. Boyd Swenson, Permit Writer Utah State Department of Environmental Quality Division of Solid and Hazardous Waste 288 North 1460 West Salt Lake City, UT 84114-4480 (801) 538-6170
Air Pollution	Mr. Robert Grandy Utah State Department of Environmental Quality Division of Air Quality 150 North 1950 West Salt Lake City, UT 84114-4820 (801) 536-4073
TSCA Compliance	Mr. Dan Bench U.S. Environmental Protection Agency Region VIII 999 18th Street, Suite 300 Denver, CO 80202-2466 (303) 312-6470

4.0 Process Description

The incineration system thermally oxidizes and destroys liquid, solid, gaseous and sludge-like hazardous wastes in a temperature range of around 2000 degrees Fahrenheit. The system is permitted for a thermal capacity of 140 million BTU's per hour.

Waste Storage

The facility is permitted to store bulk solids, bulk liquids, bulk sludge and containerized material. All storage areas have secondary containment and detection systems that meet or exceed regulatory requirements to contain any form of contamination. All storage areas are inspected daily to ensure prompt detection and correction of any problem.

The following sections briefly describe the waste storage facilities available at the Aragonite facility:

- Sixteen- 30,000-gallon tanks for bulk liquids. These tanks are located together and form the liquid tank farm. Four (4) of the tanks are blend and twelve (12) are storage.
- Four - 660-gallon transportable direct burn vessels (DBV) or containers that are used to feed waste directly to the kiln through a direct burn lance.
- Two - sludge tanks for a total storage capacity of approximately 37,000 gallons of sludge.
- Three - bulk solids tanks for the storage of contaminated solids such as dirt and debris. These tanks, enclosed within a building, have a combined capacity of 1,200 cubic yards of waste.
- Seven - drum storage and processing buildings designed to store a maximum of 10,208 55-gallon drum equivalents.

Wastes placed into storage encompass most RCRA (Resource Conservation and Recovery Act) regulated wastes. The Aragonite Facility is also permitted to store and incinerate polychlorinated biphenyl (PCB) contaminated waste streams, which are regulated under the Toxic Substances Control Act. Aragonite can store more than 15 million pounds of waste at any one time.

Some waste may be received that is not amenable to incineration. Such waste is transferred to a licensed hazardous waste facility for treatment and disposal.

Waste Treatment

The Aragonite incineration facility utilizes a Babcock horizontal slagging rotary kiln custom designed by Deutsche Babcock Anlagen, West Germany. (No model number designation is available, as each unit is custom designed).The treatment train and pollution management system was engineered by Ford, Bacon, and Davis Utah, Inc of Salt Lake City Utah and consists of an afterburner chamber for gas conditioning and an air pollution control train composed of a spray dryer, bag house, saturator, wet scrubber, wet electrostatic precipitator, with induced draft fan, and a stack.

Bulk waste solids are fed into a feed hopper at the kiln front wall and then enter the kiln through the solids feed chute. Drummed wastes are fed to the kiln through the container feed elevator and feed chamber inlet gate. Waste liquids, sludge, and fuels are fed to the kiln through burners or lances at the kiln front wall. The combination burner on the front wall of the kiln is a McGill assembly. Although each burner is designed for 50 million Btu/hr, the kiln is designed for a maximum 80 million Btu/hr heat release including all feed orifices (sludge, bulk solids, containers, liquid and direct burn).

Kiln temperature ranges from 1,820°F up to as much as 2,200°F to accommodate the wastes being incinerated and is adjusted to ensure destruction of the most difficult wastes. The kiln is operated under a slight vacuum, thereby ensuring that any flow of gas or combustion air in the feed system into the kiln. This ensures no escape of untreated combustion off-gasses to the atmosphere.

Normal operation of the kiln front wall burner requires only a nominal auxiliary fuel rate to maintain a stable flame. Fuel oil is used for preheating, post heating, and for supplementing

waste fuels to ensure that the kiln temperature is maintained at the value required for waste destruction. Direct burn material is pumped to a lance directly from a 660-gallon vessel referred to as a direct burn vessel. This direct burn mode is used to process corrosive or chemically reactive materials. Direct burn tankers and pressure cylinders are commonly used to deliver direct burn material to the kiln.

The kiln front wall is stationary. The machine joint, between the face and the rotating drum, is a close fit and is supplied with a counter-weighted seal. Part of the combustion air is supplied around this interface to prevent any outflow of feed materials or combustion products. The kiln discharges into the afterburner chamber through a similar rotating-to-stationary connection.

The afterburner chamber provides sufficient volume to hold waste gases at high temperatures to attain the required residence time (2.0 seconds) and also provides a place to feed liquid wastes, which do not require the kiln incineration conditions. The afterburner chamber operates at 2018°F - 2400°F.

The afterburner is equipped with two 80 million Btu/Hour burner assemblies (McGill combination burners), which are located on opposite facing walls. Each burner is equipped to inject:

- Aqueous waste streams through the aqueous spray nozzles
- Liquid wastes through the two liquid guns in the burners
- Fuel oil through the liquid guns in the burners
- Propane gas connected to the pilot on the burners

In addition there are connections for atomizing air and combustion air in the afterburner. The total designed heat release in the afterburner chamber is about 80 million Btu/hr, which represents a wide range of waste and supplementary fuel firing combinations.

Depending on the heat rate being fired in the kiln, the afterburner chamber heat release is turned down to maintain a maximum of 140 million Btu/hr for the whole system.

Gases exit the afterburner chamber into the hot duct. A relief vent is located at the highest elevation of this duct, which activates to vent the system and shut down waste feed under certain plant upset conditions. Under vented conditions, there is a net inflow through all unsealed openings. Auxiliary fuel is injected to continue the combustion process of solid waste material still located in the kiln during any cutoff of waste feed and/or shutdown.

Gas Scrubbing

Combustion gases from the afterburner chamber enter the spray dryer at a temperature of between 2,018°F and 2,400°F. In the spray dryer, neutralized scrubbing solution from the downstream scrubbers plus make-up water are sprayed into the hot gases, cooling them to about 400°F, and evaporating all of the incoming water so that the dissolved solids are left as dry crystalline solids.

A portion of the dry solid material separates in the spray dryer and is discharged through the spray dryer airlock to a hopper. The gas then flows to the baghouse where the remaining solids are filtered out of the gas stream. As the cake builds up, the pressure drop across the baghouse increases.

The bags are periodically pulsed with compressed air on the discharge side to remove solids, which then fall into the baghouse hoppers through the baghouse airlock. The solids removal equipment reduces solids content at very high efficiency down to an expected level below 0.02 grains per dry standard cubic foot (dscf) corrected to 7% oxygen.

Gas from the baghouse at about 350°F travels to the saturator, where a water solution is sprayed into the hot gas to reduce its temperature to saturation (about 170°F). An excess of water is used, and the excess is drained to the wet scrubber neutralization tank and re-circulated. The saturated gas flows into the wet scrubber, a two-staged packed bed design, where the upward flow of gas is contacted with downward sprays of water solution. Again, excess solution is used with the excess draining to the wet scrubber neutralization tank and is then re-circulated.

The circulating solution from the neutralization tanks has an alkaline pH (6 to 11) and reacts with the acid content of the gases, removing at least 99% of the HCl (forming sodium chloride), approximately 95% of the chlorine, and at least 90% of the SO (forming sodium sulfite). The majority of the HCl and Cl_2 are removed in the saturator and the first stage of the scrubber, and the majority of the SO is removed in the second stage of the wet scrubber, although a portion of each gas is removed in both scrubbers.

The temperature of the gas stream is further reduced to 140 to 150°F in the scrubber, which causes the majority of the water in the gas stream to condense and results in a much smaller volume of gas to treat in the downstream electrostatic precipitator.

Gas from the scrubber travels to the wet electrostatic precipitator where acid mists/aerosols are removed. These aerosols pass through the upstream baghouse as a vapor and then condense at temperatures in the scrubbers. The mist forms in the saturator and scrubber as the gas condenses. The gas enters a chamber containing evenly spaced Hastelloy rods with Hastelloy stars to promote electrical discharge. The electrical voltage difference between the wire and the tube wall creates a static charge on the particulate and condensed aerosols.

Droplets of condensed water and these particles move to the tube wall where they are collected on the wet surface. The water and these particles drain down to the wet electrostatic precipitator tank. Excess water is continuously purged to remove the scrubber material to the neutralization tank. The wet electrostatic unit also provides efficient particulate removal from the waste gas during start-up when the baghouse is by-passed and removes fine particulate during normal operation.

The gases are discharged to the atmosphere via a 150' high FRP stack. The stack is five feet in diameter. Stack instruments include an annubar to measure velocity, CO and $C0_2$ instruments to measure combustion efficiency, and 0_2 analyzer. In addition, NOx is part of the Continuous Emission Monitoring (CEM) system.

The scrubber neutralization tank receives fresh neutralizing reagent solution. The neutralizing agent is soda ash (Na_2CO_3), which is dissolved and pumped to the tank. Fresh solution mixes with process water, which is drained from the saturator and scrubber. The soda ash solution is added in two stages to obtain close pH control.

In addition, each stage is under the control of a pH instrument to ensure sufficient alkalinity to remove sulfur dioxide to the required efficiency in the scrubber.

The neutralized solution from the neutralization tank is re-circulated to the saturator and wet scrubber for cooling and for acid gas absorption. Another portion of the neutralized solution is pumped to the spray dryer by the high-pressure water pumps and becomes quench fluid. This is where dissolved salts are spray-dried and removed from the system.

The stream from the wet scrubber re-circulation pump is cooled in a plate and frame type heat exchanger, where circulating cooling water stream absorbs the process heat. The cooling water, in its turn, is cooled in a conventional cooling tower. This "closed loop" cooling system prevents water that has been in contact with the hazardous waste or effluent gases from contacting the air directly in the cooling tower.

Waste Residue

Slag from the kiln and dry salts from the spray dryer and baghouse are sampled and manifested off-site to a Utah/EPA approved facility. There is no liquid effluent from the process since scrubbing liquors are re-circulated through the gas cleaning train.

Other Facility Buildings

Other facilities on-site include a maintenance building, administrative building, truckers' lounge/receiving office, and a storm water collection system.

Transportation

The Clean Harbors transportation network owns and operates hundreds of tractors, vans, tankers, and flatbed trailers for transportation of hazardous waste and PCB solids and liquids. Some of the major terminals are located in Los Angeles, CA; San Jose, CA; San Diego, CA; Phoenix, AZ; Seattle, WA; Salt Lake City, UT; and Houston, TX.

All tractor-trailers are provided with required personal protective and emergency spill clean-up equipment. Drivers participate in driver safety training programs as well as annual hazardous materials and waste training programs.

Wastes are also accepted from common carriers.

To accommodate rail shipments, a rail siding located nearby at the Clive facility allows for direct transportation of gondolas, inter-modal containers, and tank cars. The Clive facility is used for surge-capacity storage as well as transshipment of materials from 100-ton rail cars or 20,000-gallon bulk tankers to Aragonite.

Types of Waste

The Aragonite facility is permitted to handle, treat and store a wide variety of hazardous and non-hazardous waste streams. The facility can treat most RCRA waste codes with exceptions (such as Dioxin and Carbamate Codes for storage only). Waste codes that are prohibited for treatment at Aragonite can be routed through the facility as a ten-day transfer station to be managed at another facility permitted to handle the code.

The facility is also one of the few disposal sites in the western region of the United States that can safely and effectively manage TSCA waste or those waste streams containing contamination from Polychlorinated Biphenyl (PCB). Other disposal capabilities available at Aragonite are the management and treatment of explosive and reactive wastes, medical wastes, household hazardous waste and industrial waste.

The facility also offers the destruction of materials requiring special handling or surveillance (i.e. witness burns). Such special handling allows specified generators or agencies to monitor the receipt, handling and ultimate disposal of their confidential and sensitive materials.

Laboratory Services

The Aragonite laboratory operates according to the facility's Waste Analysis Plan (WAP) and Quality Assurance (QAP) plan, both of which meet all OSHA, EPA, State of Utah standards, State of California, and National Environmental Laboratory Accreditation Program (NELAP). The laboratory is an integral part of the incineration process.

The Aragonite laboratory has the necessary instrumentation, trained personnel and procedures in place to perform waste analysis evaluation (pre-acceptance, incoming fingerprint, pre-burn, and post-burn).

Pre-Acceptance Waste Evaluation

To receive approval for incineration of a waste stream, generators must submit the following:

- Aragonite facility approval of waste data sheet.
- Mutually agreeable contract terms and conditions.
- Credit approval and mutually agreeable payment terms

Upon receipt of the above-mentioned items, Customer Service and laboratory personnel compare the generator's submittal with the facilities:

- Acceptable Waste Codes
- Operational Capabilities
- Safety restrictions

When it is determined that Aragonite can safely process a waste stream, the profile enters the system. If a pre-acceptance analysis is required, Aragonite will notify the generator. When pre-acceptance analysis is completed or the profile enters the system, a confirmation is made for:

- Operational Capabilities
- Constraints Safety Restrictions

After confirmation, the waste is approved and the Customer Service team issues a profile approval letter and a quotation for disposal, at which time the waste stream may be scheduled for shipment and receipt at the Aragonite facility.

Incoming Waste Evaluation

Shipments must arrive at the Aragonite facility gate with the following information:

- Generator EPA ID number
- Transporter EPA ID number
- Manifest (properly completed) and LDR form
- Profile waste stream number (assigned by Clean Harbors)

At the Aragonite transportation-receiving unit, each load is evaluated to confirm the presence of the above-referenced items. The load is then received for sampling, and the Aragonite laboratory personnel perform incoming analysis.

If no significant discrepancies are noted, the waste may be accepted for handling. With this confirmation, the load is now approved for off-loading.

NOTE: The manifest paperwork must reflect all EPA waste codes identified with the waste, along with any special safety handling information.

Pre-Burn Waste Evaluation

Prior to mixing (waste blending), operations personnel evaluate the waste to determine optimal incinerator performance and establish target blend mixes. Following this evaluation, a blend is formulated, sampled and sent to the laboratory for pre-burn analysis.

Pre-burn analysis is the final verification that the potential waste feed meets all applicable permit and operational conditions. With this verification, the blend is approved for incineration.

Should this analysis reflect a permit or operational problem, the waste must be re-blended, sampled and analyzed.

Post-Burn Residue Evaluation

After operations personnel receive pre-burn approvals, a burn plan is implemented and appropriately executed. The purpose of this burn plan is to optimize the unit and to track waste

codes going into and coming out of the unit to ensure compliance with applicable land disposal restriction (LDR) standards.

Residue (slag, spray dryer residue, baghouse dust) leaving the unit is sampled and sent to the Aragonite laboratory for LDR testing. Should the slag fail any standard, the residue will be re-incinerated.

If the waste residue meets all organic LDR standards, the residue package is consolidated and sent to the Grassy Mountain Facility for review and approval. Upon acceptance by Grassy Mountain personnel, the residue, with all applicable paperwork, is transported and disposed of in a RCRA/TSCA permitted landfill cell.

Container/Tank Storage/Transfer

A wide variety of wastes not acceptable for on-site treatment can be received for consolidation and transfer to other Clean Harbors' sites or select audited and approved non company-owned sites. The facility includes storage areas for tanks and containers meeting all RCRA requirements.

Railcar Storage/Transfer

The facility has the ability to receive, store and ship railcars of hazardous waste. The storage area meets all RCRA requirements.

Hazardous Waste Fuels Blending

The facility processes hazardous wastes that may be burned for energy recovery as a hazardous fuel. The types of wastes processed include: non-halogenated organics, high BTU lean waters, non-halogenated oils, organic liquids with halogens and halogenated multi-layered organics. The fuels blending process utilizes a series of mixing tanks, pumps and liquids to produce a low viscosity liquid hazardous waste fuel.

Container Management

Methods of treatment in containers may include neutralization, solidification, product adulteration, carbon adsorption and blending compatible wastes. RCRA regulated liquids are consolidated and shipped off-site for incineration. Container treatment and storage occurs in several permitted areas throughout the facility.

Waste Tracking

Aragonite manages approximately 10,000 units per month. With these individual units there are at least 15 separate transactions that must be logged when those units are unloaded, sampled, analyzed for specified constituents, transferred to storage locations, moved between storage locations, inventory verified periodically, and ultimately processed or incinerated.

Inspections

Inspections are conducted daily, weekly, and monthly and are recorded on appropriate checklists. Any exceptions to standard conditions are recorded and repaired on a schedule, which ensures protection of human health and the environment.

The facility inspection plan addresses the types of problems inherent to the materials handled and the equipment and structures used in the hazardous waste incineration process. Equipment and structures are generally classified as follows:

- Safety equipment
- Emergency equipment
- Fire protection equipment
- Security devices
- Treatment facilities
- Housekeeping
- Storage tanks
- Material transfer equipment

Frequency of inspection is based on expected deterioration rates and the realistic probability that any equipment malfunction or failure could impact human health or the environment. Areas subject to spills (i.e., loading and off-loading facilities) are inspected daily. Containers are inspected when off-loaded and daily while in storage.

Employee Training Program

The Aragonite training program allows employees to understand the processes and materials with which they are working and the associated safety and health hazards. Facility personnel through successful completion of classroom training, on-the-job training, seminars, and/or short courses meet both RCRA and OSHA 1910.2 10 training requirements. Training takes place both on and off-site.

All new employees receive initial classroom training including: company overview, preparedness and prevention, contingency plan, regulatory review, chemistry of hazardous materials, DOT placarding and hazardous materials recognition, principles of safety, confined space entry, instrumentation, waste identification and segregation, industrial hygiene, toxicology, respiratory protection, personal protective equipment, decontamination, and emergency response. In addition, each employee receives specific training regarding his/her job duties. Training is updated on an annual basis, with a minimum of eight hours per person per year.

All employees learn appropriate procedures for emergency response. In addition, Spill Response, Fire Response, and Medical First Responder groups receive specialized training. These employees respond to all emergencies and hazardous materials releases as directed by the site emergency response coordinator designated in the facility contingency plan.

Each employee must demonstrate competence throughout the training process. Written tests, along with attendance sheets, job descriptions, training requirements, training history, and on-the-job certificates, are kept in employees' files and maintained at the facility.

Health and Safety

The Aragonite Health and Safety staff continually strives to improve employee participation by holding regular meetings, providing frequent training and updates, and by involving employees in every aspect of plant operation and improvements. Employees must be involved in all aspects of Process Safety Management, Process Hazard Analysis, and during operational and equipment changes which might then require Management of Change be completed.

Employees are provided continually updated training modules as required by regulation and are offered additional training tailored by position. All training modules are current, fresh and interactive.

Safety programs include Monthly Safety Meetings, Safety Committee Meetings, Weekly Safety Meetings and Tool Box Safety Meetings. Each meeting is tailored to the audience and interaction is encouraged. Frequently, employees hold their own safety meetings in response to site incidents. Such meetings allow employees to express concerns, learn about corrective action implementation, suggest alternatives and stay abreast of new information that otherwise might take a few days to filter to employees. The safety programs developed by Aragonite have resulted in nearly 3 years without a lost-time accident. The Lost Workday Incident Rate is 1.92 for 2002.The Experience Rating is 0.58.

Health Surveillance

Aragonite conducts a complete program in health surveillance. The program includes pre-employment, continuing employment and exit employment physicals and health monitoring. The Health Surveillance program includes:

- Pre-Employment Physical
- Employment Physical upon Hiring (Protocol 1)
- Annual Physical for Site Workers (Protocol 2)
- Exit Physical

Safety Programs

A major element of the Aragonite hazard reduction program is personnel safety and personal safety procedures. Safety meetings with and by the various operations groups are conducted at least monthly throughout the facility. Medical, Spill and Fire Response groups meet at least monthly to conduct training and to discuss safety issues pertinent to their disciplines.

Safety awareness and safety incentive programs are ongoing at Aragonite. A qualified Health and Safety Officer coordinates safety activities at the site, conducting safety training and site audits as necessary. A written site-specific program is in effect at the facility. Both corporate and site-specific health and safety policies are part of the overall safety program.

Personal protective equipment distributed at the facility includes, but is not restricted to:

- Safety hats, goggles and/or safety glasses
- Hearing protection (ear plugs and muffs)
- Protective footwear (leather safety shoes and chemical-resistant rubber safety boots)
- Protective outwear (Tyvek®, Saranex®, Chemrel®)
- Appropriate respiratory protection (includes air-purifying respirators, self-contained breathing apparatus and air-supplied respirators)

Emergency equipment includes:

- Portable fire extinguishers located throughout the site
- First aid supplies
- Emergency oxygen
- Spill clean up and containment material
- Heavy equipment
- Sprinkler and foam protection systems, fire hydrants for the site
- Spill response trailer

Aragonite strives to continually improve site responses to emergency situations. With the distance outside emergency assistance must travel to arrive on-site, there is a strong incentive to train site personnel to the greatest extent practical to respond to site emergencies ad emergencies associated with surrounding facilities.

Emergency Responders

Aragonite has approximately 17 First Responders trained for on-site emergencies. The number of First Responders fluctuates with employee shift scheduling, employee retention and refresher status.

Aragonite has approximately 11 Emergency Medical Technicians trained for on-site and off-site emergencies. The number of EMT's fluctuates with employee shift scheduling, employee retention and refresher status.

Aragonite provides mutual emergency aide to Grassy and Envirocare when requested. Aragonite is also tasked by Tooele County Sheriff's Department to respond to incidents along I-80 within 15 miles of Exit 56 when Tooele County assistance is not available.

Aragonite has equipment permanently stationed on-site for on-site and off-site emergencies. An ambulance with much of the same equipment available on commercial ambulance services is maintained on-site. Additionally, a fire truck is positioned on-site with sufficient capacity and equipment to handle the majority of site emergencies.

Emergency Medical Technicians and First Responders utilize the ambulance and Fire Truck when responding to site emergencies.

Site Fire Protection Systems

Aragonite has a completely self-contained fire protection system for the plant storage, administration and working areas. The system provides fire monitoring, indications and alarms for all site buildings, and provides automatic fire fighting capability for specific areas.

Contingency Plan

The Aragonite Incineration Facility contingency plan is developed in accordance with 40 CFR 264, Subpart D, and describes the actions facility personnel will take in response to fires, explosions, or any unplanned release of hazardous waste or constituents to the environment.

The plan identifies emergency coordinators and describes their responsibilities with respect to initiating and implementing the plan. The emergency coordinators designated in the plan are authorized to commit the resources necessary to ensure successful, expedient implementation.

All necessary public facilities and agencies have been identified and are an important part of the contingency plan. Each organization is provided with a copy of the contingency plan, which is routinely updated as necessary. Emergency response drills are conducted periodically at random and include drills for fires, explosions, spills, and other potential emergencies.

Aragonite has requested assistance from outside agencies twice. The Emergency Contingency Plan was implemented once for a brush fire that approached the perimeter of the facility in August 2000. The plan was implemented a second time following a telephoned threat in September 2001. In both instances outside agencies were requested, provided assistance and departed. Both instances were not related to waste activities. Both instances were not related to waste activities.

5.0 Closure Plan

A comprehensive facility closure plan has been developed in accordance with RCRA requirements and is available at the site for inspection upon request. A Certificate of Insurance guarantees financial assurance for closure.

In accordance with 40 CFR 264.143 and 40 CFR 761.65, Clean Harbors Aragonite, as the owner and operator, is required to provide financial assurance necessary to close the facility at some time in the future. The purpose of this assurance is to guarantee that a third party can perform closure if for some reason, Clean Harbors is unable to do so. As specified by both RCRA and TSCA permits, the dollar amount is determined and guaranteed. This figure is updated at least annually in response to inflation, and as often as needed to reflect changes at the facility.

6.0 Insurance

Clean Harbors and its subsidiaries maintain General Liability and Automobile Liability insurance with aggregate limits of $30,000,000. The Company purchases Environmental Impairment Liability insurance for its' waste facilities with limits of $30,000,000 insuring the Company against liability for sudden and accidental occurrences from the time waste is picked up from a customer, while being handled at the Company's treatment and transfer facilities, through its delivery to a disposal site. See attached copy of Certificate of Liability Insurance.

In addition, Clean Harbors purchases an insurance program for Closure (Post-Closure and Corrective Action where so required) in amounts that meet regulatory requirements. See attached copy of the Closure Certificate of Insurance.

Clean Harbors Casualty Insurance Program Summary

Policy	Limits of Liability
Workers Compensation & Employer's Liability	Statutory $1,000,000 Each Accident
Business Automobile Liability (Includes MCS-90 Endorsement)	$1,000,000 Each Occurrence $5,000,000 MCS-90
Comprehensive General Liability	$1,000,000 Each Occurrence $3,000,000 Aggregate
Excess (Umbrella) Liability (Follow Form)	$30,000,000 Each Occurrence $30,000,000 Aggregate
Wharfingers Liability	$10,000,000 Any one Vessel/Any one Accident
Contractor's Pollution Liability (Off-Site)	$10,000,000 Each Occurrence $10,000,000 Aggregate
Protection and Indemnity	$1,000,000 Each Occurrence/Any one Vessel
Environmental Impairment Liability (Coverage for Clean Harbors Facilities)	$3,000,000 Each Occurrence $6,000,000 Aggregate
Excess Pollution Liability (Sudden and Accidental Occurrences)	$30,000,000 Each Occurrence $30,000,000 Aggregate
Total coverage for Pollution incidences that occur during transportation related activities	$30,000,000 Limit

For more detail concerning Clean Harbors' coverage, please contact the Clean Harbors Risk Management Department at (781) 849-1800.

Facility Closure Certificate
http://clark.cleanharbors.com/TagTeam/client/staticdownload.asp?dbid=1&siteid=823042&dataid=640

Certificate of Liability Insurance
http://clark.cleanharbors.com/TagTeam/client/staticdownload.asp?dbid=1&siteid=823042&dataid=98

7.0 Financial Information

Financial information on Clean Harbors and its subsidiaries are available from the Clean Harbors website in the Investor Relations section.

http://www.cleanharbors.com/Sites/Corp_Site/Investor_Relations/IR_Order_Center/ir_order_center.html